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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,298	12/22/2003	Christopher Ware	CS23792AS	8208
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MOTOROLA INC 600 NORTH US HIGHWAY 45 ROOM AS437 LIBERTYVILLE, IL 60048-5343			EXAMINER LOO, JUVENA W	
			ART UNIT 2609	PAPER NUMBER
			MAIL DATE 07/12/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/743,298

Applicant(s)

WARE ET AL.

Examiner

Juvena W. Loo

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

This is in response to application filed on December 22, 2003 in which claims 1 to 10 are presented for examination.

Status of Claims

Claims 1-10 are pending, of which claims 1, and 8 are in independent form.

Claim Rejections - 35 USC § 103

1. Claims 1, 2, and 4 - 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moore et al. (Patent Number 4,466,001) in view of Chuah (Patent Number 6,469,991 B1).

Regarding claim 1, Moore discloses a method for scheduling multicast transmissions in a WLAN comprising the steps of transmitting a first group poll from a Quality of Service (QoS) Access Point (QAP) to each station in a multicast group comprising a plurality of stations (Moore: column 1, lines 7-10 and lines 46-51: the base transmits a group reference address as a first group poll to each terminals in the group); identifying an active station and inactive stations among said plurality of stations (Moore: column 1, lines 51-53: a terminal is considered to be an active terminal if it has data to transmit and has responded with a short transmission to the first group poll. The base station lists all the terminals that have responded and identifies them as active);

transmitting a directed Contention Free (CF) poll from said QAP to said active station (Moore: column 1, lines 53-55 and column 3, lines 33 - 34: the base station, sending out a series of POLLS FOR DATA, polls each of the active terminals on the list in turn during the next period); transmitting an inbound data from the active station to the QAP (Moore: column 3, lines 67 – 68 and column 4, lines 1 – 3: at the end of the poll by the base station, the terminal begins to respond by transmitting back DATA FOLLOWS which indicates to the base that a data message is coming and also identifies the sending unit). However, Moore fails to teach that the multicasting an outbound QoS data frame corresponding to said inbound QoS data frame from said QAP to said inactive stations.

In the same field of endeavor, Chuah discloses the multicasting of an outbound QoS data from QAP to inactive stations (Chuah: Figure 6F, box 671 and column 9, lines 9 – 10: the base station multicasts or broadcasts downlink packets that are destined for one or more of the remotes within the group). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the multicasting of downlink data frame into the system of Moore. The motivation would have been in delivering data to multiple destinations.

Regarding claim 2, the combination of Moore and Chuah discloses all the limitations of claim 1. Additionally, Moore discloses the step of identifying an active station among said plurality of stations identifies as said active station a station that transmits, in response to said group poll, an inbound QoS data frame to said QAP

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(Moore: column 1, lines 51-53: a terminal is considered to be an active terminal if it has data to transmit and has responded with a short transmission to the first group poll).

Regarding claim 4, the combination of Moore and Chuah discloses all the limitations of claim 1. However, Moore fails to teach that the active station is a back-haul interface.

In the same field of endeavor, Chuah discloses the active station is a back-haul interface (Chuah: Figure 2, 238: a backhaul network). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the backhaul network into the system of Moore. The motivation would have been in enabling the access to multiple networks.

Regarding claim 5, the combination of Moore and Chuah discloses all the limitations of claim 1. However, Moore fails to teach the steps of executing a back-off algorithm when a collision occurs when two of the stations respond to the first group poll.

In the same field of endeavor, Chuah discloses step of identifying an active station comprises executing a back-off algorithm when a collision occurs when two of said stations respond to said first group poll with inbound QoS data frames (Chuah: column 19, lines 49 – 54: each remote station with packets to send requests access to the access point during uplink initial contention. If some of these access requests collide, the colliding remote stations participate in uplink conflict resolution). Thus, it

would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the back-off algorithm into the system of Moore. The motivation would have been in resolving requests from contenting remote stations.

Regarding claim 6, the combination of Moore and Chuah discloses all the limitations of claim 1. Additionally, Moore discloses said inactive stations do not respond to said first group poll (Moore: column 1, lines 51-53: a terminal is considered to be an active terminal if it has data to transmit and has responded with a short transmission to the first group poll. An inactive station that does not have data to send does not respond to the poll).

Regarding claim 7, the combination of Moore and Chuah discloses all the limitations of claim 1. However, Moore fails to teach that data frames are half duplex voice data frames.

In the same field of endeavor, Chuah discloses said data frames comprise half duplex voice data frames (Chuah: column 9, lines 14 - 15 and column 18, lines 50 -51: the system may be operated in the half-duplex mode and support voice data transmission). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to include half-duplex voice data in the system of Moore. The motivation would have been in increasing the capability of the system to support various types of data.

Regarding claim 8, Moore discloses a system of a WLAN used for scheduling multicast transmissions, the system comprising a QoS access point (QAP) operative to receive a single poll for a multicast group consisting of some of said stations in said plurality of stations, and to transmit through said outbound interface or through said back-haul interface a group poll to said multicast group to identify an active station among said plurality of stations (Moore: column 1, lines 7 - 10 and lines 46 - 53: the base transmits a group reference address as a first group poll to each terminals in the group. A terminal is considered to be an active terminal if it has data to transmit and has responded with a short transmission to the first group poll. The base station lists all the terminals that have responded and identifies them as active). However, Moore fails to teach that the QAP having a backhaul interface and a plurality of stations operatively connected to the QAP through the backhaul interface.

In the same field of endeavor, Chuah discloses a network having a backhaul interface, an inbound interface and an outbound interface (Chuah: Figure 2 and column 8, lines 25 – 65); and a plurality of stations operatively connected to said QAP through one of said back-haul, inbound, or outbound interfaces (Chuah: Figure 2 and column 8, lines 25 – 65). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the network of Chuah into the system of Moore. The motivation would have been to provide a multiple access system.

Regarding claim 9, the combination of Moore and Chuah discloses all the limitations of claim 8. However, Moore fails to teach the QAP comprises a group scheduler.

In the same field of endeavor, Chuah discloses said QAP comprises a group scheduler (Chuah: 2230, Figure 22 and column 9, lines 57 – 59: a scheduler which notifies both the remote and wired stations of when to transmit). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the group scheduler into the system of Moore. The motivation would have been in improving the efficiency of the system.

Regarding claim 10, the combination of Moore and Chuah discloses all the limitations of claim 8. However, Moore fails to teach that data frames are half duplex voice data frames.

In the same field of endeavor, Chuah discloses said data frames comprise half duplex voice data frames (Chuah: column 9, lines 14 - 15 and column 18, lines 50 –51: the system may be operated in the half-duplex mode and support voice data transmission). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to include half-duplex voice data in the system of Moore. The motivation would have been in increasing the capability of the system to support various types of data.

2. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Moore and Chuah as applied to claim 1 above, and further in view of Brasic et al. (US 2004/0156350 A1).

Regarding claim 3, the combination of Moore and Chuah discloses all the limitations of claim 1. Additionally, Moore discloses transmitting a subsequent group poll from said QAP to each station in said plurality of stations (Moore: column 1, lines 7 – 10 and lines 46 – 51: the base transmits a group reference address as a first group poll to each terminals in the group). However, the combination of Moore and Chuah fails to teach the transmission of a QoS null frame from active station to QoS access point (QAP).

In the same field of endeavor, Brasic discloses the transmission of a QoS null frame from said active station to said QAP (Brasic: page 2, section 0021: if the terminal does not have a payload to transmit to the QAP, it responds by returning a null frame). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the null data frame structure into the system of Moore. The motivation would have been to indicate the absence of data for transmission.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juvena W. Loo whose telephone number is (571) 270-1974. The examiner can normally be reached on Mon.-Thurs : 7:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frantz Coby can be reached on (571) 272-4017. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Juvena W Loo
Examiner
Art Unit 2609


FRANTZ COBY
SUPERVISORY PATENT EXAMINER